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XXXVII.—*Notes on Blattidæ &c., with Descriptions of new Genera and Species in the Collection of the British Museum, South Kensington.*—No. III. By W. F. KIRBY, F.L.S., F.E.S.

### BLATTIDÆ.

#### BLATTINÆ.

Genus MELANOZOSTERIA, Stål.

*Melanozosteria bicolor*, sp. n.

Long. corp. 18–20 millim.

Black, sometimes shading into dark reddish chestnut at the sides and towards the extremity; antennæ, palpi, and a large subquadrate spot on each side of the seventh abdominal segment above luteous. Tegmina lateral, just passing the extremity of the mesonotum, rather longer than broad, with the hinder angle rounded off; strongly punctured. Abdomen with the lateral extremities acutely angulated; the segments with numerous short, strongly marked, longitudinal carinæ at the extremities above. Tarsal joints more or less rufous; coxæ lined with pale yellow.

*Hab.* Torres Straits and Cornwallis Island.

Allied to *M. nitida*, Walk., but easily distinguished by its colour.

## Genus SYNTOMAPTERA, Tepp.

*Syntomaptera Tepperi*, n. n.

||*Periplaneta glabra*, Tepp. Trans. Roy. Soc. S. Australia, xvii. p. 107 (1893).

*Hab.* Northern Territory of South Australia.

Judging from the description, this insect appears to be a species of *Syntomaptera*, Tepp. *Periplaneta glabra*, Walk. Cat. Blatt. B. M. p. 139. n. 45 (1868), belongs to *Melanostosteria*, Stål.

The name of the province known as "South Australia" is most misleading, and ought to be changed. It is really a perpendicular slice running from north to south of the whole continent.

## Genus METHANA, Stål.

*Methana Zehntneri*, n. n.

||*Methana flavicincta*, Sauss. & Zehntn., Grandidier, Hist. Madagascar, Orth. i. p. 71, pl. ii. fig. 27 (1895).

*Hab.* Madagascar.

This species appears to be distinct from *M. flavicincta*, De Haan, from Java, of which Saussure and Zehntner consider it a variety. The true *M. flavicincta* from Java is smaller, and the yellowish markings on the middle of the pronotum are smaller and less conspicuous than in the insect figured from Madagascar.

*Methana rufescens*, n. n.

||*Periplaneta pallipalpis*, Brunn. Syst. Blatt. p. 238. n. 18 (1865), nec Serv.

Long. corp. 17–18 millim. ; exp. tegm. 38–41 millim.

Rufo-castaneous; head red, varied with blackish in front, but generally with a more or less distinct brighter red mark in the middle of the face below the limits of the antennæ, which are red towards the base and browner beyond; ocellar spots, palpi, and lower mouth-parts yellow. Pronotum elliptical, broader than long, with indistinct spots and streaks in the middle, obliterated in one specimen, in which the pronotum, except at the edges, is blackish. Meso- and meta-notum yellowish; abdomen pale red towards the base and mostly blackish towards the extremity; terminal segment long, slightly incised in the middle in both sexes; cerci long and thick, blackish, tipped with red; setæ of the female

nearly as long as the cerci. Underside blackish; legs dark red. Tegmina hardly as long as the abdomen, almost equally broad throughout; hind margin obtusely rounded, dark rufocastaneous, covered part of the right tegmen yellowish, more or less conspicuously bordered with rich purple. Wings with the costal area brown; nervures yellow in the basal half of the costal area and also the longitudinal nervures towards the base; the rest of the wing hyaline.

*Hab.* New South Wales.

Allied to *M. convexa*, Walk. (Cat. Blatt. B. M., Suppl. p. 152, 1869), from Moreton Bay, but in *M. convexa* the head is black. *Paraphoraspis* (?) *castanea*, Tepp. Trans. Roy. Soc. S. Australia, xviii. p. 173 (1894), appears to be another allied species.

### Genus BLATTA, Linn.

#### *Blatta Brunneri*, n. n.

||*Periplaneta concinna*, Brunn. Syst. Blatt. p. 229. n. 7 (1865).

*Hab.* Australia.

De Haan's description of his *Blatta* (*Periplaneta*) *concinna* (Orth. p. 50), from Java, appears to apply to *P. Borrei*, Sauss., which is in the British Museum, from Java and Hong Kong. It is a species of *Methana* allied to *M. pallipalpis*, Serv. Brunner's species thus falls under a different genus, and when a second species is described as the same as another, and they prove to be distinct, it seems to me that we have no alternative but to change the name of the later one, even though it may fall under another genus in which the name has not previously been used.

### Genus PELMATOSILPHA, Dohrn.

This is a small genus, but its contents do not seem to be very homogeneous; still I cannot venture to subdivide it, as I am unacquainted with the types, *P. alaris*, Sauss., and *P. præstans*, Dohrn. *P. marginalis*, Brunn., and the two other West-Indian species described below form a very natural group with short tegmina, while the Australian species will probably form another genus.

#### *Pelmatosilpha purpurascens*, sp. n.

Long. corp. 25–30 millim.

Head pale yellow above, brown below, with the sides and lower part sometimes varied with tawny. Antennæ ferru-

ginous. Pronotum and tegmina dark brown, with the borders broadly yellowish tawny, edged outside with a narrow black line. Tegmina overlapping, punctured, dark ferruginous brown, nearly half as long as the abdomen, truncated at the extremity, and broadly bordered with yellowish tawny; narrowly edged outside with a black line; the right tegmen, which is shorter than the left, is broadly bordered with yellow on both sides, and the dark centre passes on each side into reddish, which on the inner side is strongly flushed with purple in some lights. Legs pale yellow; hind femora double-lined with black beneath; hind tibiæ and tarsi more ferruginous. Abdomen black; lateral angles, cerci, and terminal plates ferruginous.

*Hab.* Dominica.

Allied to *P. marginalis*, Brunn., from Grenada.

*Pelmatosilpha decipiens*, sp. n.

Long. corp. 25 millim.

*Male.*—Head, pronotum, and tegmina orange-tawny; head with a broad blackish transverse band between the eyes, and a large blackish space varied with red on the middle of the front of the head, from above the antennæ to the extremity of the clypeus, except a pale space below each eye; pronotum with a narrow black rim all round and two black central spots, connected by a line between. Tegmina overlapping, closely punctured; costa bordered by a ferruginous line, closely punctured, squarely truncated and slightly waved at the extremities; right tegmen shorter than the left, about two fifths as long as the abdomen, which is tawny, with the segments bordered with black behind, increasingly, so that the hinder segments are almost entirely black. Legs tawny, with black spines, and the lower carinæ lined with brown or black. Antennæ ferruginous.

*Hab.* Trinidad.

Allied to the last species, but curiously resembling *Periplaneta australasiæ*, Fabr., in its markings.

*Pelmatosilpha* (?) *antipoda*, sp. n.

Long. corp. 25–27 millim.

Inky black, rather shining; antennæ (except at base), ocellar spots, a line on the coxæ, terminal joints of tarsi, and the pulvillæ pale yellow or ferruginous; pronotum nearly concealing the head, rather broad, semicircular, cut off square behind. Tegmina overlapping, of equal length, squarely truncated, but slightly concave at the ends, thickly punctured

and slightly inclining to ferruginous at the borders, about  $\frac{2}{5}$  as long as the abdomen. Front legs with a row of short spines beneath on the outer half; middle and hind legs with not numerous, but longer spines on their whole length.

*Hab.* Queensland.

I place this species provisionally in the American genus *Pelmatosilpha*, to which it has most resemblance.

### Genus DEROPELTIS, Burm.

*Deropeltis Saussurei*, n. n.

|| *Deropeltis longipennis*, Sauss. Mém. Soc. Genève, xxiii. p. 117 (1873).

This species is allied to *D. albilatera*, Stål (= *Wahlbergi*, Sauss., nec Stål). *Ischnoptera longipennis*, Walk. Cat. Blatt. B. M. p. 167. n. 29 (1868), appears to be synonymous with *D. brevicollis*, Serv.

### PANCHLORINÆ.

### Genus RHYPAROBIA, Karsch.

*Rhyparobia rufipes*, sp. n.

Exp. al. 63 millim.; long. corp. 38 millim.

*Female*.—Head black above, with two pale lines running downwards to a transverse pale band, below which a large blackish patch fills up the centre of the face as far as the lower border of the clypeus; pronotum black, with a narrow pale yellow border running all round. Abdomen yellowish at the base and blackish towards the extremity, except at the sutures. Under surface black, with pale yellow sutures; abdomen with a broad, central, interrupted, reddish band, and with curved, pale yellow, comma-like lateral markings. Legs red, spines tipped with black. Tegmina subparallel, about twice as long as broad, shorter than the abdomen, and obtusely rounded at the ends; greenish grey, with small, scattered, pale yellow dots. Wings broad, rather shorter than the tegmina; costal area purplish brown, with a few yellow spots towards the extremity; the rest of the wing brownish hyaline.

*Hab.* Sierra Leone.

Allied to *R. thoracica*, Kirb.

*Rhyparobia pallescens*, sp. n.

Long. corp. cum tegm. 40 millim.

*Female*.—Head, pronotum, and tegmina light shining yellowish grey; ocellar spots pale yellow, mouth-parts in-

clining to orange; antennæ blackish, shining. Pronotum elliptical, narrowed in front, with the sides obtusely angulated behind the middle. Tegmina with a conspicuous black basal line, as in *B. maderæ*, but not mottled. Body beneath chocolate-colour; abdomen with an orange-coloured comma, bordered within with black, near the sides of each segment; femora chocolate-colour or blackish, striped with yellowish white below; legs otherwise red.

*Hab.* Sierra Leone.

### Genus LEUCOPHÆA, Brunn.

#### *Leucophæa striata*, sp. n.

Exp. al. 35–43 millim.; long. corp. 20–25 millim.

Head free, light red above, black below, except a space under each eye and the parts below the labrum, which are pale yellow. Antennæ ferruginous, pale yellow at the base. Pronotum smooth, shining, sparingly punctured, more or less blackish in the middle; the front and depressed sides red; front transversely striated. Abdomen orange-tawny, paler below, with a row of four linear spots on each side. Tegmina reddish tawny towards the base, and yellowish towards the costa beyond the costal cell and towards the apex of the left tegmen; outer half of right tegmen obliquely, and wings clear hyaline; outer half of costa of wings yellowish tawny.

*Hab.* Selangor, near caves (*H. N. Ridley*).

Allied to *L. tenebrigeræ*, Walk., from India.

### Genus PANCHLORA, Burm.

#### *Panchlora translucida*, n. n.

|| *Panchlora hyalina*, Sauss. Rev. Zool. (2) xiv. p. 231 (1862); Sauss. & Zehntn. Biol. Centr.-Am., Orth. i. p. 96. n. 12 (1893); Brunn. Syst. Blatt. p. 275. n. 6 (1865).

*P. hyalina*, Stoll, Spectres, Blatt. p. 5, pl. iii d. fig. 12 (1813), appears to be identical with *viridis*, Burm., Sauss. & Zehntn., Brunn. (nec Fabr., which = *nivea*, L.); *nivea*, Herbst, Thunb., Sauss. (nec Linn.); and *Poeyi*, Sauss.

### Genus NAUPHÆTA, Burm.

#### *Nauphæta basalis*, sp. n.

Exp. al. 52–56 millim.; long. corp. 28–30 millim.

*Female*.—Head black, a tawny band in front, curving round behind the eyes to the vertex; a space between each

eye and the mouth-parts tawny. Pronotum with the sides rounded, hinder border quite straight, black, with the sides bordered with pale yellow. Abdomen above brown, shading into black, the sutures and margins pale yellow; cerci black, tipped with red. Underside banded with black and tawny; legs ferruginous, coxæ and femora pale yellow beneath. Tegmina of a shining and slightly reddish brown; a pale yellow line on the costal margin, below which the costal cell is black; anal area with a large, oval, pale yellow spot at the base. Wings brownish hyaline, with the costal area brown.

*Hab.* Matton Mountains, Tonkin, April and May (*H. Fruhstorfer*).

This species has a superficial resemblance to *Hedaia olivacea* &c., but the unarmed femora, and pronotum truncated behind, will at once distinguish it.

#### POLYPHAGINÆ.

Genus POLYPHAGA, Brullé.

*Polyphaga limbata*, n. n.

||*Homæogamia sinensis*, Sauss. Mém. Soc. Genève, xxi. p. 282 (1869);  
Rev. Suisse Zool. i. p. 311 (1893).

This species is quite distinct from *P. sinensis*, Walker & Dohrn, to which the specific name rightly belongs, but which Saussure has renamed *H. Dohrniana*.

*Polyphaga camelorum*, Kirb.

*Polyphaga camelorum*, Kirb. Ann. & Mag. Nat. Hist. (7) xi. p. 407 (1903).

Jacobsen and Bianchi have described and figured this species from Turkestan, but have identified it with the much smaller *P. ægyptiaca*, L. (Premokr. i Lozhn. Ross. Imp. p. 133, pl. ii., 1892).

#### PLECTOPTERINÆ.

Genus PROSOPLECTA, Sauss.

*Prosoplecta rufa*, sp. n.

Long. corp. cum tegm. 9 millim.; lat. 5 millim.

*Female*.—Light red, the tegmina somewhat darker. Pronotum smooth and shining, with the front border narrower than the hind border, transversely oval, with broad borders of subhyaline yellow covering the rounded off lateral angles, and

the hind border yellow. Tegmina with the costal margin subhyaline yellow, a small yellow spot near the base, and another at one third of the length, both near the costa; between the second and the inner margin is a much larger, transverse, oval, yellow spot. Base of tegmina blackish. Wings, and a great portion of the middle of the abdomen beneath, as far as the base of the terminal segment, black.

*Hab.* Mindanao, Philippines.

*PERISPHERINÆ.*

Genus *THYSANOBLATTA*, nov.

*Male.*—General characters of *Derocalymma*, Burm. Pronotum regularly curved, longer than broad, semioval, with a broad depressed channel before the raised marginal line; hood below with the sides moderately broad, narrowing on each side to a point in front, the central part over the head almost linear. Pronotum clothed with long hair above, which forms a fringe all round, except on the hinder edge. Eyes approximating; front femora with three short spines below, and a terminal spine above; hind tibiæ with three rows of spines above.

Differs from *Trichocoma*, Stål, in the shape of the pronotum, which in Stål's genus is described as being wider before than behind.

*Thysanoblatta latipennis*, sp. n.

Long. corp. 18 millim.; exp. al. 45 millim.

*Male.*—Pronotum black, rugose-punctate, with a very slight median carina, most distinct behind; the channel within the recurved marginal line broad, smooth, reddish; the recurved edge brown at the sides; hind border of pronotum narrowly brown, pronotum clothed and fringed with long ferruginous hair. Hood moderately broad, punctured, contracted to a line in front; ocelliform spots very large, pale yellow; eyes closely approximating, the line between, and the front orbits and lower mouth-parts, testaceous; the rest of the face black, distinctly punctured. Antennæ black, testaceous towards the base. Abdomen and under surface lighter or darker testaceous, the abdomen blackish towards the extremity above, and towards the sides and extremity beneath; cerci pale yellow, base of coxæ and a more or less distinct line on the femora black. Tegmina narrow, yellowish hyaline, the costal area and base of the inner margin whitish; basal fourth opaque, reddish brown, shading into black at the base;



longitudinal nervures and cross-nervures just beyond the opaque part of the tegmina and to beyond the middle below the costal area rufo-testaceous, the rest of the cross-nervures white. Wings broad, as long as the tegmina, hyaline, and with white nervures, except that the longitudinal nervures and the branches of the subcostal nervure are pale brown.

*Hab.* Mbuyuni, Brit. East Africa (*Betton*).

This insect agrees fairly well with *Ischnoptera macra*, Stål, but is twice the size; from *Derocalymma versicolor*, Burm., it differs in the colour of the legs &c. Both these species may, perhaps, belong to the present genus. The female probably resembles *Perisphæria æqua*, Walk., or *Derocalymma Brunneriana*, Costa; but there is no reason to identify the male here described with either of these species.

PANESTHIINÆ.

Genus PANESTHIA, Serv.

*Panesthia nigricans*, n. n.

|| *Panesthia nigrita*, Sauss. Rev. Suisse Zool. iii. p. 317. n. 17 (1895).

*Hab.* Macassar.

Not *Blatta nigrita*, Stoll, Spect. Blatt. pl. ii d. fig. 6.

XXXVIII.—On the Origin of Bacteria and their Allies by Heterogenesis\*. By H. CHARLTON BASTIAN, M.A., M.D., F.R.S.

[Plates XXV. & XXVI.]

IF we turn to the question of the origin of Bacteria and their allies by heterogenesis we shall find, I think, that the evidence is overwhelming in regard to its reality, though it lacks that kind of certitude which obtains in regard to the heterogenetic origin of some much larger organisms whose birth from strange ancestors we have been following in some of the preceding sections. We may, for instance, as I have shown, see the whole substance of a large Rotifer's egg segment into a number of smaller parts, and we may see such segments presently become active as Amœbæ, Monads, Peranemata, or even as Ciliated Infusoria †.

\* This paper forms one of the concluding sections of the author's 'Studies in Heterogenesis.'

† See 'Studies in Heterogenesis,' pp. 31 & 46.